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CLAIMS:

1. A polymer having silicon-containing groups of the general formula (1):

$$R^3$$
 R^4 R^5 R^6 R^7 (1)

wherein R^1 to R^4 each are independently hydrogen or a straight, branched or cyclic alkyl group of 1 to 20 carbon atoms, or R^1 and R^2 , taken together, may form an aliphatic hydrocarbon ring in which -CH₂- may be substituted with a $-\text{Si}(R^8)_2$ - group, and R^3 and R^4 , taken together, may form an aliphatic hydrocarbon ring in which -CH₂- may be substituted with a -Si(R^8)₁- group.

 R^5 to R^7 each are independently a straight, branched or cyclic alkyl or fluorinated alkyl group of 1 to 20 carbon atoms or aryl group of 6 to 20 carbon atoms,

 $\ensuremath{R^8}$ is independently a straight or branched alkyl group of 1 to 4 carbon atoms, and

m is 1 or 2.

2. The polymer of claim 1 wherein hydrogen atoms of hydroxyl groups on a carboxylic acid, alcohol or phenol are substituted with the silicon-containing groups of the general formula (1).

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3. A polymer comprising recurring units of one of the general formulae (2) to (5):

wherein R¹ to R⁴ each are independently hydrogen or a straight, branched or cyclic alkyl group of 1 to 20 carbon atoms, or R¹ and R², taken together, may form an aliphatic hydrocarbon ring in which -CH₂- may be substituted with a -Si(R⁴)₂- group, and R² and R⁴, taken together, may form an aliphatic hydrocarbon ring in which -CH₂- may be substituted with a -Si(R⁴)₂- group,

 R^5 to R^7 each are independently a straight, branched or cyclic alkyl or fluorinated alkyl group of 1 to 20 carbon atoms or aryl group of 6 to 20 carbon atoms,

 $\ensuremath{\mathtt{R}}^8$ is independently a straight or branched alkyl group of 1 to 4 carbon atoms,

 R^9 is hydrogen, a straight, branched or cyclic alkyl group of 1 to 20 carbon atoms, or $CH_2CO_2R^{12},$

 R^{10} is hydrogen or a straight, branched or cyclic alkyl group of 1 to 20 carbon atoms,

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 $\ensuremath{\mbox{R}}^{11}$ is a straight, branched or cyclic alkylene group of 1 to 10 carbon atoms.

 $\ensuremath{R^{12}}$ is hydrogen or a straight, branched or cyclic alkyl group of 1 to 20 carbon atoms,

- m is 1 or 2, n is a number of 0 to 5, p is a number of 1 to 5, each of q and r is 0 or 1.
 - A chemically amplified positive resist composition comprising:
 - (A) the polymer of claim 1,
 - (B) a photoacid generator, and
 - (C) an organic solvent.
 - 5. The resist composition of claim 4 further comprising a basic compound.
 - 6. A chemically amplified positive resist composition comprising:
 - (A) the polymer of claim 1,
 - (B) a photoacid generator,
 - (C) an organic solvent, and
 - (D) a dissolution rate inhibitor having an acid labile group.
- 25 7. The resist composition of claim 6 further comprising a basic compound.
 - 8. A process for forming a pattern, comprising the steps of:
 - applying the positive resist composition of claim 4 onto an organic film on a substrate to form a coating,

prebaking the coating to form a resist film,

exposing the resist film in a pattern circuit region to radiation.

35 post-exposure baking the resist film,

developing the resist film with an aqueous alkaline solution to dissolve away the exposed area, thereby forming a resist pattern, and

processing the organic film with an oxygen plasma generated by a dry etching apparatus.